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Item: 4066

Supporting Statement for a Request for OMB Review under
The Paperwork Reduction Act

1. IDENTIFICATION OF THE INFORMATION COLLECTION

l(a) Title of the Information Collection

TITLE: Collection of Impact Data on DfE Technical Information Programs

EPA ICR No.: 1768.03

OMB Control No.: 2070-0152

1(b) Short Characterization

This statement provides a justification for a request for generic clearance for a series of studies to undertake data collection in support of the Environmental Protection Agency's (EPA's) Design for the Environment (DfE) Program initiative to collect information on the implementation of Pollution Prevention practices in DfE industry sectors, to understand the impact of the technical materials DfE develops and provides, and to seek input on new sectors. DfE is a program of the Office of Pollution Prevention and Toxics (OPPT). DfE was established as a non-regulatory approach to encouraging private industry to adopt technologies and use materials which result in lower amounts of pollution produced, lower reliance on toxics, higher energy efficiency, and lower environmental health risks. Through DfE, EPA creates voluntary partnerships with industry, professional organizations, state and local governments, other Federal agencies, and the public to develop and disseminate technical information.

The proposed studies would focus on various industrial sectors such as printing (screen, lithographic, flexographic, and gravure), printed wiring boards circuitry, computer screens and electronics, automotive repair and refinishing, adhesives in foam furniture, garment care, dry cleaning, and industrial/institutional laundry formulation. Other studies would include the evaluation of the effectiveness of non-sector DfE activities such as the DfE projects designed to for the promotion and adoption of Pollution Prevention principles into scientific technical disciplines. The DfE Program serves as an umbrella organization for the Agency's Green Chemistry and Green Engineering initiatives. DfE has also partnered with the Partnership for Environmental Technology Education (PETE) organization. PETE was established to promote quality environmental education and is a non-profit organization with hundreds of members from the community colleges, technical schools and tribal colleges across the country. The DfE-PETE Alliance allows DfE to reach a broader audience. DfE will study the effectiveness of the DfE-PETE Alliance in getting prevention principles incorporated into college curricula and course instruction.

The purpose of a DfE Technical Information Study is to collect information on best management practices and available technologies in an industry sector and to evaluate the impact of DfE technical information on industry practices, materials used, and waste generation. In each case, DfE, in collaboration with industry associations, universities, and colleges develop technical information for industry on the use of product reclamation processes and other workplace practices which may lower health risks to workers and prevent pollution. The proposed study format will typically involve two surveys of owners or operators of target industry establishments. An initial survey would establish a baseline representing pre-technical material receipt. A follow-up survey would be administered to establish longer-term impacts of the technical materials, approximately one to two years later.

Some of the surveys will be mail-out/mail-back surveys, others will be administered by telephone or by on-site interview. The DfE webpage will be also used to collect limited sector specific information. The advantages of conducting the surveys by telephone or in person include a higher response rate than with a mail questionnaire or through the DfE webpage and the ability to clarify items for respondents as their questions arise. The use of in-person surveys will typically be limited to DfE sector projects that are either smaller in scope where the number of respondents is limited either by geographical parameters of the projects or the number of potential respondents in a sector is very small to begin with. The cost of administering a telephone survey is considered much lower than conducting an in-person survey. In most cases a telephone interview will be preceded by two steps: an initial telephone contact to identify the best respondent, and a mail-out. The mail-out would include a letter of introduction and instructions. Wherever possible, the mailing would include also a letter of encouraging participation from an appropriate industry trade association. The instructions would include a statement on confidentiality, a request to provide updates to contact information (prior to the interview), and a summary of questions that respondents might want to obtain answers for in advance of the interview.

In each case, sample sizes would be established to create sufficiently precise estimates to allow DfE to understand the impacts of technical support materials. In general this will lead to initial sample sizes ranging from 25 to 1,000 participants depending on the number of business establishments in an industrial sector.

A pilot survey would be conducted prior to full implementation of each survey. The pilot survey results will be used to refine the instrumentation and data collection procedures.

Because it is not known how many surveys would be conducted, it is not necessarily feasible to accurately estimate the total cost of the data collection. DfE is moving into a mature program phase. DfE has significantly increased its' sector activities. There are over 15 on-going DfE projects. DfE anticipates undertaking 5-7 surveys per year over the period of this information collection request. EPA will be the principal user of information developed from the survey findings, but it is anticipated that tens of thousands of small businesses in a variety of industries will benefit from the studies.

2. NEED FOR AND USE OF THE COLLECTION

2(a) Statutory and Regulatory Authority

Authority for DfE and its activities comes from environmental protection statutes and their accompanying regulations. *The Toxic Substances Control Act (TSCA; 15 USC 2601,* October 11, 1976) requires EPA to consider the economic impacts of actions taken to control the manufacture, distribution, processing, use, or disposal of a chemical substance or mixture that presents an unreasonable risk of injury to human health or the environment. According to the Act:

> "It is the intent of Congress that [EPA] shall carry out this Act in a reasonable and prudent manner, and that [EPA] shall consider the environmental, economic and social impact of any action [EPA] takes or proposes to take under this act."

The Design for the Environment Program was created to seek reasonable and economical approaches to reducing environmental pollution and worksite health risks.

EPA's efforts are authorized also by the *Pollution Prevention Act of 1990* (*Omnibus Reconciliation Act of 1990,* Public Law 101-508, 104 Stat. 1388-321 et seq.). Section 6602 states:

There are significant opportunities for industry to reduce or prevent pollution at the source through cost-effective changes in production, operation, and raw materials use. Such changes offer industry substantial savings in reduced raw material, pollution control, and liability costs as well as help protect the environment and reduce risks to worker health and safety.

The Act directs EPA to "develop and implement a strategy" for encouraging businesses to adopt pollution prevention techniques, to facilitate the exchange of information on such techniques, and to establish methods of measuring the impact of pollution prevention activities.

EPA believes that baseline surveys provide invaluable information to either scope and steer a sector project or to determine the impact of efforts to publicize technical information to reduce environmental pollution and workplace hazards in any of the target industries. DfE continues to need information directly from industry to quantify workplace practices and pollution prevention improvements in the small business sectors included in DfE. It is critical to DfE's mission (that is, to provide businesses with technical, cost, and performance information) to determine which communication methods are the most effective in reaching the intended audience.

2(b) Use of the Data

The impact of technical information developed by DfE on the many industries to which DfE provides technical assistance is essential to measuring the success of defined DfE project specific goals. Under a separate collection request, DfE conducted an impact study of screen printing establishments. In addition, in August, 1998 the existing DfE generic clearance was approved to

support the collection of information for the DfE Auto Refinish Project. The continued use of this generic clearance is considered invaluable as a method to systematically collect data to identify which product pollution prevention techniques are in use or have been recently adopted.

The data to be collected will be used in the evaluation of and planning for EPA's Design for the Environment Program. Not only will the findings from the surveys be used to improve industry specific initiatives, but the findings will also be adapted and applied to other industry initiatives.

There are two principal objectives of the proposed DfE Technical Information Surveys:

1. To evaluate the DfE Program's efforts to disseminate pollution prevention and risk reduction information to industry.

This first objective concerns the ability of EPA and its industry partners to disseminate technical information to facilities. To address the first objective, the surveys would determine what types of information media were reaching facility owners and operators; how owners and operators assessed the quality and usability of the technical information and its communication media; and what types of communication media owners and operators are most receptive to.

2. To evaluate the effectiveness of this information to motivate pollution prevention and, therefore, risk reduction in industry.

This second objective concerns the impact of the information on industrial operations and materials. The surveys would address this objective by measuring changes in workplace practices, changes in technology used, and changes in materials used -- especially changes attributable to the receipt of DfE technical information.

The initial baseline survey will assess current industry practices and ways that businesses receive and respond to technical information. The follow-up survey would cover the one to two-year period after the initial survey and discover what the lasting benefits and impacts of the DfE materials have been.

In conducting the surveys, EPA will learn a series of lessons for communicating technical information to private industry in pursuit of environmental goals. EPA will learn which media and communications methods are most effective for imparting technical information to small businesses. This is important in that the Agency wants to communicate effectively with decision makers in small businesses. In general, the objective is to learn what motivates small businesses to introduce pollution prevention and risk reduction processes or technologies into their operations. With this information, EPA can make more strategic and effective choices in developing technical information for other industries in the DfE Program.

3. NON-DUPLICATION, CONSULTATIONS, AND OTHER COLLECTION CRITERIA

3(a) Non-Duplication

For each study conducted, EPA will carefully determine that no study of this type has been conducted with the target industry, and that no other EPA data collection specific to the industry is envisioned (aside from the initial and follow-up surveys).

3(b) Public Notice Required Prior to ICR Submission to OMB

Prior to submission to OMB, this ICR will be made available to the public for comment through a Federal Register notice. The public will have 60 days to provide comments. Any comments received will be given consideration when completing the supporting statement that is submitted to OMB.

3(c) Consultations

EPA plans to implement a number of consultations in support of the DfE Technical Impact Surveys, including:

a. **Association contacts**. Prior to preparing each survey's data collection methodology, EPA staff will meet with representatives of the target industry association, if at all possible. Also, where possible, EPA will arrange for focus groups with facility owners and operators from the target industry to gain their input into the survey design process.

b. **Focus groups with users**. In a previous DfE effort, two focus group projects with screen printers and industry suppliers were undertaken. One was designed to determine what information sources printers use and respect most. The other was conducted to determine ways to best convey pollution prevention and risk reduction information to the industry. Findings from both sets of focus groups were used extensively in designing the outreach products developed in the Screen Printing Project.

c. **Pilot study**. A purposive sample of industry representatives will be asked to participate in a pilot test of the questionnaire and data collection procedures. Interviews with up to nine establishments will be completed. Included in the pilot test will be a short supplemental set of questions asking the respondent to evaluate the questionnaire.

d. **Statistical consultation**. If necessary, DfE will seek the assistance of a contractor to review and in some cases prepare future data collection instruments and study designs. When requested to do so, the contractor shall review the statistical issues related to the sampling plan. When requested, the contractor shall prepare an industry specific sampling strategy for surveys undertaken (described in Chapter II of this document).

3(d) Effects of Less Frequent Data Collection

The DfE Surveys are envisioned as longitudinal, two-point-in-time surveys. They are designed to assess the impact of DfE technical information in the short and longer term. The reasons for conducting an initial and follow-up survey concern the evaluation goals. These goals include learning about which media are most effective for communicating technical information (in an environment of constantly changing information technology) and learning about the impact of the DfE program in developing and conveying technical information.

If EPA were not to conduct the proposed surveys, EPA would not obtain feedback on the effectiveness of its innovative approach to pollution prevention and environmental health risk reduction. Reducing the data collection to a single survey would greatly limit the longitudinal aspect of the impact assessment. Many of the pollution prevention or risk reduction options require time to implement and to have an impact. Therefore, reducing the data collection methodology to one survey would reduce the ability to assess program effectiveness over time.

3(e) General Guidelines

The data collection effort will be conducted according to the guidelines specified in 5 CFR 1320.6. No special circumstances are known which would require deviation from these guidelines.

3(f) Confidentiality

Confidentiality will be an important part of the design for each of the study. For each survey, EPA will ensure the confidentiality of all data provided. A pledge of confidentiality is a major positive incentive for potential respondents to participate in the study. Its absence would be a significant deterrent and could create complications in implementing the surveys. The precautions which EPA will take to ensure confidentiality of all data collected on each study will include the following:

- A cover letter will be sent to prospective respondents. It will include an explicit reference to Title 13, U.S. Code.

- All project staff, including study designers, analysts, coders, editors, key entry clerks, and secretaries, involved in the study will be instructed in the confidentiality requirements of the study and will sign a statement affirming the obligation to maintain confidentiality.

- ! Where a contractor is responsible for preparing them, data files will be delivered to EPA without the respondents' names, addresses, telephone numbers, or firm names. In lieu of including such contact information on the data file, the contractor will use unique identification numbers. Contact information will be kept separately from the delivered data files.

- ! Analysis and publication of study findings will focus on aggregate statistics.

A confidentiality statement will be prepared for all staff working on each survey. The statement will pledge the signatory not to reveal responses associated with the individual establishments surveyed. An example statement is provided in Appendix D.

3(g) Sensitive Questions

Collections under this clearance will comply with the *Privacy Act* of 1994 and OMB Circular A-108. In all cases, EPA will inform respondents that the purpose of the surveys is to evaluate the impact of the DfE's technical information campaign on the use of new technologies. Respondents will be asked for only a few items that could be considered sensitive -- in particular, the amount of revenue generated by targeted activities and the types of personal protection equipment used by employees engaged in potentially hazardous methods of reclamation. In order to encourage a response to the questions on revenues, the survey instruments will provide multiple choice responses with dollar ranges. Also, the questionnaires will include checklists on personal protection equipment used.

4. RESPONDENTS AND THE INFORMATION REQUESTED

4(a) Respondent/SIC Codes

For each information collection activity, EPA will specify the relevant industry SIC codes.

4(b) Information Requested

4(b)(i) Data Items Requested

Each baseline (initial) survey questionnaire will measure: (1) present types of technology used, any plans to change to pollution prevention or reduction technologies; (2) how the target industry receives technological information; (3) what are the most credible sources of information to the respondent; (4) what types of information are effective in sending the pollution and risk reduction message to the respondent; (5) factors that are important in motivating the respondent to adopt pollution prevention and risk reduction technology; and (6) general demographic information including number of employees, sales volume, and major products produced. The baseline questionnaire will address all or part of the following topics:

Facility and Employee Information

- Number of workers at the facility
- Number of workers at the facility who are potentially exposed to the chemicals in the use cluster
- Number of operating days per year
- Number of shifts run per day
- Number of hours per shift
- Number of hours of worker exposure to use cluster chemicals per shift
- Dimensions of the operating area in which chemical exposure may occur

Worker Exposure Information

- Name of chemical
- Concentration of chemical
- Operations/activities leading to potential chemical exposure
- Duration of potential chemical exposure
- Frequency of potential chemical exposure
- Personal protective equipment used

Source Release Information

- Amount of chemical purchased per year
- Amount of chemical used per day
- Total chemical releases by facility per year
- Location of release (on-site or off-site)
- Media of chemical releases per site per day
- Amount of chemical releases per site per day
- Frequency of chemical releases
- Duration of chemical releases
- Amount of solid waste released
- Amount of wastewater created/released
- Energy use

Regulatory, Control and Pollution Prevention Information

- Pretreatment standards and discharge permits
- Types of in-process engineering controls used to reduce exposures
- Types of end-of-pipe control technologies used to reduce releases and exposures
- Types of pollution prevention practices used to reduce or prevent releases

Technical Information Media Exposure

- Sources of pollution prevention information?
- Sources of information that are important to the business?
- Preferred presentation of information?
- Factors which motive change?

Each impact (follow-up) questionnaire will focus on (1) changes in industrial techniques used over the previous two years, (2) exploration of the motivation for the changes, and (3) collection of information on the impact of the changes. In addition to asking similar workplace practice questions (identified above), additional questions on the following topics will be included also - - for example:

- Changes in industrial techniques over the past two years
- Exploration of the motivation for the changes
- Collection of information on the impact of the change

4(b)(ii) Respondent Activities

Respondent activities will be limited to answering questions (over the telephone or by mail) and looking up some responses prior to the interview. Advance mail-out materials will identify question items which might require the respondent to consult records. Most questions can be answered by recall.

5. INFORMATION COLLECTED -- AGENCY ACTIVITIES, COLLECTION METHODOLOGY, AND INFORMATION MANAGEMENT

5(a) Agency Activities

Information collection activities performed under this generic clearance will require the following government activities: design of the survey (including developing a questionnaire); conduct of the survey; and analysis of the survey findings. Since DfE will be utilizing the data to perform impact analyzes, any further activities are attributable to redesign of the technical information materials. As appropriate, DfE will share the data or other results with interested parties.

Overview of the Design for the Environment (DfE) Program DfE is a program of EPA's Office of Pollution Prevention and Toxics (OPPT). It is a voluntary, cooperative program that works in partnership with private industry to develop and distribute pollution prevention and environmental and human health risk information on alternative products, processes, and technologies. For each *project* selected by the DfE Program, EPA works with industry representatives and other technical experts to amass available information on alternative materials, processes, and technologies. This information is typically assembled in a Cleaner Technologies Substitutes Assessment (CTSA) -- a repository for all technical information developed through a DfE industry project. The goal of a CTSA is to offer a comprehensive picture of the environmental and human health impacts, costs, and

performance issues associated with substitute products, processes, and technologies. The CTSA is an analytical tool developed by the DfE Program for use by a particular industry. The CTSA is designed to help businesses make more informed decisions -- hopefully to reduce pollution release and human exposure to toxics while achieving greater production efficiencies or cost savings. Similarly, DfE has developed and uses a second approach-A "Considerations for Partnerships with DfE" document. A "considerations" document describes the attributes of risk reduction and environmental stewardship that the DfE seeks from industrial sector partners. As a voluntary-based program, DfE seeks to encourage pollution prevention and risk reduction, not through regulations or guidelines, but through the development and transfer of technical information. Information products may include written case studies, video-conferences, training videos, demonstration sites, and software to help industries and the public make cleaner choices in their business practices. EPA's DfE staff works with industry representatives to disseminate technical information. For example, staff members have provided written materials and verbal explanations in booths at trade shows and conference exhibition halls. The DfE Program is currently working with industries consisting predominantly of small businesses: screen printing, lithographic printing, flexographic printing, dry cleaning, printed wiring board manufacturing, metal finishing. Computer display screens and electronics, auto repair and refinish, garment care, industrial and institutional laundry, and adhesives in foam furniture. In addition to sector based projects, the DfE Program promotes the adoption of Pollution Prevention principles into scientific technical disciplines. DfE includes the Agency's Green Chemistry and Green Engineering projects. DfE has also formed an alliance with the Partnership for Environmental Technology Education (PETE). The DfE-PETE Alliance promotes the incorporation of Pollution Prevention principles into curricula and course work at community colleges, technical trade schools, and the tribal colleges across the country.

Industry-Specific Initiatives To date EPA has undertaken a series of industry specific initiatives (identified above) and is continuing to identify new industrial sectors. One such case is the DfE Program collaboration with representatives of the screen printing industry to develop technical information for a Screen Reclamation Products Cleaner Technologies Substitutes Assessment. EPA's partners in the preparation of this CTSA include the Screenprinting and Graphics Imaging Association International (SGIA), the University of Tennessee Center for Clean Products and Clean Technologies, industry suppliers, and owners and operators from over 30 screen printing establishments. Technical information in the Screen Reclamation Products CTSA includes information on alternative products and methods in terms of trade-offs between cost and performance, environmental releases, human health and environmental exposure and risk, energy efficiency, and resource conservation.

DfE efforts to assist other industries are similar to those described above for the screen printing industry. Typically, DfE conducts case studies on cost-effective systems that can reduce occupational exposure and pollution and on workplace practice changes that improve worker safety. Then, often, a video is developed to introduce pollution prevention concepts and simple changes in technology and workplace practices. The video explains the benefits of chemical substitution. Computer software is developed sometimes also to help industry better estimate cost savings from adopting pollution prevention process changes and investments in new technology. Televideo conferences can be used also to train industry members who are asked to provide help to target industries. Training has been provided to small business assistance program (SBAP) staff, state

technical assistance providers, and field staff of Manufacturing Extension Partnerships. Also, DfE may host conferences on pollution prevention in target industries.

The DfE effort focuses outreach efforts on small businesses. In all cases, DfE works directly with national organizations and individual firms to develop its outreach strategies and gain industry acceptance.

For most of its 28-year history, EPA has taken a pollution control (or command and control) approach to environmental protection. Pollution control involves collecting and disposing waste products after they have been produced. EPA set pollution limits, assigned fines for companies that exceeded this limits, and failed to follow requirements for the proper containment and disposal of waste. Under a pollution prevention policy (under which programs like DfE were created), EPA seeks to prevent the release of waste into the environment by reducing the amount of waste produced -- for example, by the use of cleaner technologies and the recycling of waste materials.

Through programs like DfE, EPA has sought a more proactive approach to encouraging pollution reduction and environmental risk reduction. Rather than compel industry to reduce pollution through a system of mandates and fines, EPA has sought to create incentives for adapting cleaner production methods and new innovative technologies that result in lower pollution, reduced risk to workers and the environment, and recapture and reuse of waste products, while allowing firms to achieve production and financial objectives.

5(b) Collection Methodology and Management

To help ensure minimum respondent burden, industry specific questionnaires will be developed for each survey. The questionnaires will be carefully reviewed to ensure that each question is necessary and that the information being obtained is the information being sought. Any information obtained from industry associations will be used to help design the questionnaires. Typically, questionnaires will be administered by telephone; however, on-site surveying or mailing may be used, if considered a more effective approach to reaching a target audience. Prior to collecting the data, EPA will mail out an advance letter informing the sampled representative of the target industry (respondent) about the upcoming data collection. A summary of questions that might require the respondent to look up the answers from records will be included also.

Completed questionnaires will be reviewed, then the data from the questionnaires will be extracted and key entered into a data file. The data file will be edited according to a codebook, which will become the principal documentation on file contents and acceptable responses. Other techniques are used to ensure the usefulness and reliability of the collected information. Such techniques vary depending upon the size of the survey and the type of information collected. The possible techniques include quality control call-backs to a small percentage of the respondents, especially if the information obtained from those respondents does not fit a logical pattern. Data from the data file will be summarized statistically. Findings will be included in a written summary report. The public is not routinely allowed access to the raw data to preserve confidentiality, but normally can access the final analysis report which includes information obtained from this data. The report may be

published or may be included in the public docket.

5 (c) Small Entity Flexibility

The DfE Program focuses primarily, but not exclusively, on small business industries. It is anticipated that most respondents will be small entities. The techniques described above should prove effective in minimizing the burden on small facilities.

Burden will be minimized for responding entities by limiting the number of questions asked and by keeping the number of instances when the clearance is used to a minimum. Burden is inherently reduced by the fact that the response is voluntary; the voluntary nature of each survey will be explained at the beginning of each contact of this type. However, participation will be encouraged by EPA and appropriate industrial associations where possible. In addition, it is unlikely that a large number of firms will need to be contacted in any given instance. It is very unlikely that DfE staff would desire to use this method of collection for more than 500 firms in any one survey. The average number of contacts would probably be about 300.

Once contacted, other aspects of the data collection methodology should prove particularly helpful in easing the burden on small firms. For example, nearly all items on the questionnaire will elicit short responses, such as a brief numeric, yes/no, or multiple choice answer. Furthermore, it is anticipated that most questions will be answered from the respondent's recall. Only a few items should require the respondent to consult records or another person in the establishment.

Participation in the surveys will be strictly voluntary.

5(d) Collection Schedule

Each survey will have its own data collection schedule. In brief, however, Table I-1 shows a generalized data collection schedule for the surveys.

Table I-1

Proposed Schedule

Milestone	Start Time	Completion Time
Plan finalization	Week 0	
Sampling	Week 2	Week 4
Pilot test	Week 3	Week 5
Revised questionnaire	Week 7	Week 9
Pre-interview mail-out	Week 11	Week 13
Interviewing	Week 15	Week 20

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6. ESTIMATING THE BURDEN AND COST OF THE COLLECTION

Several steps will be taken to use available information technology to reduce respondent burden. For example, prior to drawing samples, EPA will remove any duplicate records from the sampling frame electronically. Also, EPA and its contractors will use up-to-date and proven questionnaire layout techniques to make responding to questions as simple as possible.

6(a) Estimating Respondents' Burden

It is anticipated that only a single interview will be necessary to collect the desired information. Two activities may impose a modest burden on respondents: hearing instructions and responding to questions and looking up answers in available records. Understanding instructions would involve listening or reading basic information about the survey and then the individual questions themselves. Most responses would be based on recall. Other responses would be extracted from the respondent's files or collected from others within the establishment. In some instances, a follow-up interview may be necessary if other personnel within the organization need to be consulted. Respondent may incur a burden of one and one-quarter hours for a telephone interview and up to six hours for a site visit interview conducted by an EPA contractor. For site-visit type interviews, it is anticipated that the number of respondents would be significantly lower. Table 1-2 itemizes this burden for an example survey with 300 respondents. (EPA assumes that the same level of effort is needed to design and conduct an initial or a follow-up survey.)

Table I-2

Estimated Respondent Burden

	Number of Respondents	Hours of Response	Burden Hours
Hearing or reading and clarifying instructions and responding to questions	300	1.00	300
Looking up answers in records or seeking assistance from other employees (technicians)	300	1.00	300
Total Burden Hours			600

A pilot test of the telephone interview will be conducted to confirm the actual amount of time necessary to conduct the interview.

It is difficult to forecast with accuracy the number of firms that DfE or its contractors would contact under this clearance. It is very unlikely that more than 500 establishments would be contacted for any one survey. The number anticipated to be interviewed would average around 300 in a given sector investigation. However, a survey may include as few as 25 interviews depending on the sector. DfE may wish to gather information from a representative population within a specific geographic location or the number of businesses in a sector may be small. Again, the contacts will consist of telephone conversations followed up with correspondence (a list of discussion topics and/or a summary of the conversation) from EPA to the respondent in some instances, mailed surveys, or on-site interviews. No on-going monitoring, reporting, or record keeping forms are anticipated.

6(b) Estimating Respondents' Costs

As an example, the estimated cost to respondents associated with a DfE survey is shown in Table I-3.

Table I-3

Estimated Respondent Cost

Cost Category	Cost per Hour	Number of Respondents	Number of Hours	Total Cost
Hearing, reading, clarifying instructions and responding to questions	$28	300	300	$8,400
Looking up answers in records or seeking assistance from other employees	$28	300	300	$8,400
TOTAL				$16,800

6(c) Estimate of Agency Burden and Cost

The level of agency effort with respect to an example survey has been estimated and is depicted in Table I-4. Estimates for specific data collection efforts can be produced showing the activities particular to each effort. (The rate shown is for a GS-13 level employee, unloaded.) The cost to the Federal government for a contract that includes questionnaire design, sampling design and implementation, data collection, data processing, and preliminary analysis is estimated at $126,500 distributed as shown in Table I-5. (All costs and hours reflect a 300 completed questionnaire survey.)

Table I-4

Annual Agency Burden/Cost Estimates
per survey

Activity	Technical Hours	Hourly Rate	Cost
Design questionnaire	100	$29.00	$2,900.00
Pilot test questionnaire	50	$29.00	$1,450.00
Review findings/ contractor's report	50	$29.00	$1,450.00
TOTAL	200		$5,800.00

Table I-5

Estimated Costs to EPA
per survey

COST CATEGORY	TOTAL COST
Contractor Costs	
Design	$ 31,625
Pilot test	$ 12,650
Data Collection	$ 63,250
Analysis/Reporting	$18,975
Total Contractor Costs	$126,500
Annual Agency Burden	$ 5,800
Total Costs	$132,300

6(d) Bottom Line Burden Hours and Costs

Table I-6 shows the total estimated burden (in hours) to respondents and the agency for an example survey. Also, it shows the total cost estimate with respect to respondents, agency staff time contributed to the surveys, and direct costs in the form of contracts for survey design, sampling, data collection, and data preparation.

Table I-6
Total Estimated Burden and Costs

	Burden in Hours	Cost
Respondent	600	$16,800
Agency	200	$ 5,800
Contractor	2,300	$126,500
TOTAL	2,875	$149,100

6(e) Reasons for Change in Burden

This request has been modified to reflect current costs. In table I-2 the number of "hours of response" for looking up answers was increased from 0.25 hours to 1.00 hours. The additional hours of response accounts for time to consult with other employees, when necessary. DfE has increased industrial sector activities.

Because DfE does not know how many specific surveys it will conduct, it is not necessarily feasible to accurately estimate the total burden of the data collection. The original request estimated the use of up to 1,000 burden hours and up to 800 respondents. DfE is moving into a mature program phase. DfE has significantly increased its' sector activities since the original request, is also developing strategies to more efficiently identify additional sectors, and has developed non-sector specific projects activities aimed at the adoption of Pollution Prevention principles within technical disciplines (chemistry and engineering) and, through another activity promotes the incorporation of Pollution Prevention principles into college curricula. There are over 15 on-going DfE sector specific projects and several non-sector initiatives. DfE believes that it could reasonably undertake 5-7 surveys per year over the period of this information collection request. DfE also anticipates the use of surveys to evaluate and assess the DfE Programs abilities to meet the established GPRA goals. Again, DfE activities are voluntary. Respondents are encouraged but are not required to participate. DfE requests an increase from 1,000 burden hours up to 15,000 burden hours for this collection period and an increase in respondent burden from 800 respondents to 7,500 respondents.

6(f) Burden Statement

An example of a burden statement is given below. This will serve as the boilerplate for the actual burden statements for the information collections; however, since the surveys can vary in content and length, this statement will be tailored to the specific collection.

The annual public burden for this collection of information, which is approved under OMB Control No. 2070-0152, is estimated to average 2 hours per response. According to the Paperwork Reduction Act, "burden" means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. For this collection it includes the time needed to listen to or review instructions, consult existing data sources, and respond to questions during a telephone interview or on a mail-out/mail-back questionnaire. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number for this information collection appears above. In addition, the OMB control numbers for EPA's regulations, after initial display in the final rule, are listed in 40 CFR part 9.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Regulatory Information Division, U.S. Environmental Protection Agency (Mail Code 2137), 401 M Street, S.W., Washington, D.C. 20460. Include the OMB control number in any correspondence but do not submit the requested information to this address. The requested information should be submitted in accordance with the instructions accompanying the form, or as specified in the corresponding regulation.

1 Survey Objectives, Key Variables, and Other Preliminaries

1(a) Survey Objectives

There are two principal objectives of the proposed DfE Technical Information Studies:

1. To evaluate the DfE Program's efforts to disseminate pollution prevention and risk reduction information to industry; and

2. To evaluate the effectiveness of this information to motivate pollution prevention and, therefore, risk reduction in industry.

The initial surveys would assess industry responses to DfE technical information. The follow-up surveys would cover the two-year period after each initial survey and discover what the lasting benefits and impacts of the DfE materials have been.

Conduct of the DfE Technical Information Studies will provide EPA with information to determine the impact of efforts to publicize technical information to reduce environmental pollution and workplace hazards in many industries. To date, there have been no adequate efforts to quantify workplace practices and pollution prevention improvements in most industries, measure reclamation efforts, or to measure the amount of waste products industries generate. Also, because DfE efforts are relatively recent, there has been only limited effort to determine which communications efforts have reached specified industries or which ones are the most effective.

1(b) Key Variables

A list of key variables will be produced for each survey. Responses to related questionnaire items will be treated with the highest level of review and quality control under the data collection and processing plan. For example, these variables could be the subject of a post-interview "scan edit" for completeness, call-backs to clarify inconsistent responses, and specially programmed computer checks to determine logical consistency.

1(c) Statistical Approach

With respect to sampling, EPA will typically select a national, representative sample of establishments for each target industry or a geographic representative sample for a pilot project bounded to a specific geographical locale. Using an appropriate database as a sampling frame, the eligible universe of establishments will be selected as a starting point. The eligible universe will consist of establishments dedicated to the target activity in a determined size range. This size range will be specifically determined for each industry studied. The eligible universe of establishments will be stratified by a measure of size (e.g., number of employees). A representative sample of establishments will be selected from each size stratum.

With respect to analysis, EPA will derive largely descriptive information from the survey database. EPA will calculate totals, proportions, and measures of centrality (e.g., mean, median, mode) from the survey responses. EPA will weight the data in accordance with the original probability of selection and, if necessary, adjust for non-response in order to develop national estimates.

1(d) Feasibility

High cooperation rates for the surveys and high completion rates for questionnaire items are expected. For each study, EPA will complete a number of preliminary steps to achieve high rates. As mentioned above, in most cases, EPA will conduct focus groups and discussions with industry representatives. Also, where possible, EPA will obtain the support of a national association which represents the industry and that association will provide a letter of endorsement and encouragement to participate. The feasibility of the data collection methods will be formally tested through pilot tests of data collection procedures and the questionnaire.

2 Survey Design

2(a) Target Population and Coverage

The subject universe of the proposed surveys includes establishments representing target industries. An establishment is defined as a separate location. A firm may have more than one establishment. The sampling plan (mentioned in Section 1 (c) above) calls for developing a sampling frame which approaches the universe of each target industries and establishments. For each study an appropriate measure of establishment size will be used to determine survey eligibility.

2(b) Sample Design

Specific sampling plans will be drawn up for each survey. A sampling plan can address important subjects, such as source of sampling frame data, specification of sample size, and stratification variables. EPA anticipates, however, that in most cases samples of establishments will be drawn using stratified, systematic sampling. If this is the case, the sampling frame for the study will be stratified according to a measure of size, such as number of employees. It is possible that, in any survey, a subset of establishments would be selected with certainty or a relatively higher probability of selection. This will allow the study to include these relatively rare establishments which are likely to operate differently from the majority of establishments.

Once the sampling plan is prepared, EPA will sort establishments within strata according to two criteria: geography (EPA region) and size (number of employees). EPA operates with 10 geographic regions. Sorting establishments in this way will ensure geographic and size dispersion. Within each stratum, a proportional sample of establishments will be selected. The proportion will be based on the relative concentration of establishments among the strata.

2(c) Precision Requirements

2(c)(i) Precision Targets

Precision refers to the degree of mutual agreement among individual measurements, obtained under prescribed or carefully controlled conditions. It describes the extent to which replicate or repeat measurements differ from each other. Precision is often described as measurement error -- although, technically, precision includes the error associated with the sample design and execution, as the sample procedures introduce uncertainty to the data. Statistically, precision refers to the variability or dispersion of the frequency distribution of repeated measurements made on one sample. Precision targets will be specified for all surveys employing probability sampling methods. They are not appropriate for non-random sample designs.

For design purposes, the precision of the analytical methods is estimated from historical data generated by the same protocol. It is expressed in terms of standard deviation, percent relative standard deviation, or coefficient of variation. If there is no appropriate data collected from past, repeat measurement, an alternative approach to estimating precision must be found. It is anticipated that there will be no precedent data for either the baseline or follow-up. Precision estimates will be calculated, nevertheless, on the survey results. For example, the standard error associated with a 95 percent confidence interval will be calculated for key variables. Appropriate measures of precision will be taken on the different types of data obtained -- e.g., continuous data, proportions. It is anticipated that national estimates of proportions (e.g., yes/no responses) will yield standard errors of plus or minus five percent.

2(c)(ii) Non-Sampling Error

Non-sampling errors reflect errors in the estimates that are not attributable to sampling design or variability. Such errors may arise from errors in reporting, recording, measurement, and nonresponse. To help minimize such errors, quality control procedures will be established to review and edit the completed data collection forms. Range and logic checks will be included in automated coding. A scan editing protocol will be developed to help ensure completeness and consistency of responses. A refusal conversion procedure will be followed to maximize the cooperation rate. Missing, out-of-range, or inconsistent responses to key variables will be the subject of data retrieval (a follow-up contact with the respondent) to minimize logical inconsistencies and maximize item response. Statistical adjustments of the sampling weights will be made also, where appropriate, to help reduce the potential bias due to nonresponse.

2(d) Questionnaire Design

A typical initial data collection instrument will consist of multiple sections, each with a consistent topic. For example, questionnaire sections could be devoted to: (A) background information on the company or site; (B) business characterization of the company, including major products produced and types of buyers of their products; (C) information on the facilities including number of people involved with product reclamation; (D) the types of production materials currently

used; (E) workplace practices or use of pollution prevention technology or materials; (F) future plans to change practices, technology, or materials; (G) storage of materials; (H) waste disposal; (I) incentives to adopt pollution prevention techniques; and (J) sources and credibility of information received.

For the most part, each questionnaire will consist of multiple choice, closed ended items that rely on the respondent's memory to complete. The initial or baseline survey will be administered first. Appendix B presents an example of an instrument designed to collect baseline information on workplace practices and establishment conditions prior to the availability of technical information developed by DfE.

The follow-up or impact survey instrument will focus on changes in industrial techniques used over the past two years and the reasons for the changes. Information on the impacts of these changes will also be collected. Appendix C presents an example of a follow-up questionnaire.

3 Pretests and Pilot Tests

EPA will conduct a pilot test of the data collection instrument and methods for each study. To the extent possible, all administrative procedures associated with advance mailing, scheduling, and conducting the interviews will be tested in the pilot. In addition, a supplemental set of questions will be added for the pilot test respondent to give feedback on the time of interview administration.

The pilot test is a critical aspect of the data collection plan. One of the goals of the pilot test is ensuring that facilities of different sizes participate in the test of survey procedures and instrumentation. One reason for conducting the pilot tests is to ensure that questions are worded in a way that all respondents will understand. Another reason is to estimate how long the interview will last. Also, the proposed pilot tests may include a short series of supplemental questions designed to ascertain the respondents' view of the surveys. The following is a list of feedback questions that could be asked of pilot survey respondents.

- How do you feel about the length of the questionnaire?
- Was this time of day or day of the week convenient for conducting the survey?
- Were you caused any problems at work by the length of the telephone interview?
- Would you have preferred to answer the questions by some other method, such as mail?
- What percentage of answers did you know without looking up or guessing?
- What percentage of answers did you have to look up in records?
- Were the records readily accessible?
- What percentage of answers did you guess on or estimate?
- Did you have to ask anyone else to help with the answer to any question?
- Do you have any additional comments on the survey?

4 Collection Methods and Follow-up

Individual data collection plans will be specified for each survey. Certain commonalties can be identified, however, and are presented below. Because it is anticipated that most nation-wide focussed industry sector surveys would be typically conducted by telephone, the discussion below focuses on a telephone survey methodology.

4(a) Collection Methods

For telephone surveys, once a sample is selected, EPA will contact selected establishments first by mail. The purpose of this mail contact will be multifold: (1) confirm or update contact information -- e.g., address, firm name, (2) identify the best respondent and obtain that person's initial cooperation; (3) inform the respondent about the study; (4) provide a copy of questions that may require looking up information; and (5) identify questions that may require the respondent to consult records prior to the interview. The mail-out package will include: (1) a cover letter announcing the survey, describing the confidentiality assurances, and providing instructions, (2) if possible, a letter endorsing the survey from the appropriate industry association, (3) a copy of particular items from the questionnaire, and (4) a mail-back or faxable form requesting the designation of an interview contact and corrections to any contact information. Respondents will be given a toll-free telephone number to call should they wish to specify an appointment time, update contact information, or request general information on the survey.

Most of the above activities would be conducted in a mail survey also. The major difference is that the respondent would be asked to complete the questionnaire and mail it back.

4(b) Survey Response and Follow-up

The range of available follow-up activities is essentially the same for mail and telephone surveys. Such activities could include reminder calls to non-respondents and data retrieval calls to obtain clarifications to answers given on a questionnaire or during an interview. Actions taken to increase the response rate will be tailored to the specific survey and respondent population. For example, EPA might send respondents a summary of the survey results if they are interested. Participation in all surveys will be voluntary. The fact that the information is being sought on a voluntary, cooperative basis will be stressed when the contact is first made.

Overall, EPA believes that that approximately 80 percent of any respondent group of small business establishments will cooperate and complete the interview. To obtain a high cooperation rate, a letter from an appropriate industry association endorsing the survey will be included in the initial mailing. In some cases, respondents will receive a copy of the data collection instrument before they are called. This can contribute to a higher cooperation rate because the respondents know what to expect during the interview.

A variety of additional methods will be used to obtain high case response and item response. First, all interviewers employed on any of the surveys will have completed a formal training of interviewers prior conducting the surveys, to ensure that interviewers are familiar with the subject area, technical terms, and data collection protocols. Second, once the interview has been completed, a "scan edit" of completed instruments will be conducted, primarily to identify whether responses to "key variables" have been obtained. Finally, a "data retrieval" call will be placed to respondents who have not provided responses to key variables.

5 Analyzing and Reporting Survey Results

5(a) Data Preparation

EPA will prepare a codebook of survey-specific coding and editing applications. Included in the codebook will be data field specifications, acceptable response ranges, and logical relationships between responses.

Coding and editing will consist of several steps to ensure data quality. First, following the interview, the interviewer will review the completed questionnaire to ensure that marks are complete and legible. Second, a survey operations supervisor will conduct a "scan edit" to ensure that all sections of the questionnaire have been completed and the items associated with key variables are complete and internally consistent with other responses. Third, the questionnaires will be coded for key entry. Coded questionnaires will be reviewed by a survey operations specialist prior to key entry.

A double key entry protocol will be used for computerization of all survey responses. That is, all responses will be entered twice into the original data file (developed using the codebook and questionnaire as specifications) -- once by each of two data entry clerks. Any conflicts in keyed data will be referred to a key entry supervisor for resolution.

A computer program to determine eligible and internally consistent responses will be run against the data. Violations of the specifications for allowable ranges, skip patterns, and internal logics will be identified in edit reports. An operations supervisor will review the findings in the edit reports, as well as the corresponding hard copy questionnaires -- with special attention to items associated with key variables. The supervisor will direct the key entry operations to make corrections.

The edited data will be packaged in a single PC data file that can be easily analyzed. Frequencies (e.g., counts, ranges) on categorical (e.g., Yes/No, multiple choice) will be produced. Also, univariate statistics (e.g., mean, median, mode, standard deviation) on continuous variables will be produced.

5(b) Analysis

EPA's analysis plan calls, generally, for a descriptive analysis of findings. EPA will prepare descriptive tabulations (totals, percentages, counts, and so forth) for quantitative data. Cross-tabulations of descriptive statistics by different size establishments and geographic will by performed. When the follow-up survey is conducted, EPA will generate comparative statistics -- e.g., change in technology and workplace practices.

5(c) Reporting

Baseline survey results will be used in the preparation of technical assistance bulletins ("case studies"), information bulletins, fact sheets and CTSA reports. (See Appendices E for example materials.) Follow-up survey results will be used in the preparation of analytical and program evaluation reports. The analytical reports will include an assessment of the impact of technical information communications methods, as well as recommendations for improving the specific DfE Program outreach efforts for particular industries, as well as other DfE pollution prevention initiatives.

Appendix A

Relevant Statutes

(Note: An electronic copy of this attachment is not available. Please contact the Environmental Protection Agency at the address noted in the Federal Register notice for a complete copy of this ICR.)

Appendix B

Example Baseline Survey Questionnaire

(Note: An electronic copy of this attachment is not available. Please contact the Environmental Protection Agency at the address noted in the Federal Register notice for a complete copy of this ICR.)

Appendix C

Example Follow-up Survey Questionnaire

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Appendix D

Confidentiality Pledge

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Appendix E

Example Technical Information Materials

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